CLAIMS

1. A semiconductor capacitor including a first capacitor electrode (1; 10), a second capacitor electrode (3; 30) and a capacitor dielectric (5; 50) which is arranged between the two capacitor electrodes (1, 3; 10, 30) and which includes praseodymium oxide, characterized in that the second capacitor electrode (3; 30) contains praseodymium silicide at least in the boundary region in relation to the capacitor dielectric.

2. A semiconductor capacitor as set forth in claim 1 characterized in that the second capacitor electrode (3; 30) consists of praseodymium silicide.

3. A semiconductor capacitor as set forth in claim 1 or claim 2 characterized in that the first capacitor electrode (1; 10) includes silicon.

4. A semiconductor capacitor as set forth in claim 1 or claim 2 characterized in that the first capacitor electrode (1; 10) includes a silicon-germanium alloy.

5. A semiconductor capacitor as set forth in claim 3 or claim 4 characterized in that a mixed oxide layer (7) in the form of $(PrO_2)_x(SiO_2)_{1-x}$ is present between the capacitor dielectric and the first capacitor electrode, wherein x can assume values in the range of greater than zero and less than one.

6. A semiconductor capacitor as set forth in claim 5 wherein there is provided an oxynitride layer (9) between the mixed oxide layer and the first semiconductor region.

7. An MOSFET comprising a semiconductor substrate (10), a gate dielectric (50), a gate electrode (30) and a semiconductor capacitor as set forth in one of the preceding claims, wherein the first capacitor electrode is formed by the semiconductor substrate (10), the second

capacitor electrode by the gate electrode (30) and the capacitor dielectric by the gate dielectric (50).

8. A process for the production of a semiconductor capacitor which has a praseodymium oxide-bearing dielectric, characterized by a step of producing a praseodymium silicide layer on the praseodymium oxide-bearing layer.

9. A process as set forth in claim 8 wherein the praseodymium silicide layer is deposited out of the gaseous phase.

10. A process as set forth in claim 8 wherein the praseodymium silicide layer is produced by thermal conversion of praseodymium oxide by means of local energy input into regions near the surface of the praseodymium oxide-bearing layer.

11. A process as set forth in claim 10 wherein the local energy input is effected by means of a laser.

12. A process for the production of a praseodymium silicide layer on a praseodymium oxide-bearing layer wherein the praseodymium silicide layer is produced by thermal conversion of praseodymium oxide by means of local energy input into regions near the surface of the praseodymium oxide-bearing layer.